

REMARKS

This Amendment responds to the Office Action dated February 26, 2003. A diligent effort has been made to respond to all of the objections and rejections contained in the Office Action and reconsideration is respectfully requested.

Claims 1-17; and 20-31 remain pending in this application. Claims 18, 19 and 32-43 have now been cancelled. The pending claims have been amended as indicated above.

In paragraphs 5-9 of the Office Action several objections were raised to the drawings. Some of these objections have now been overcome by the replacement set of drawing figures attached hereto as Appendix A. Other objections, however, should be withdrawn. For example, in paragraph 6 of the Office action, there are six separate objections set forth in bullet-point form. With respect to the first, third, fourth, fifth and six objections, these objections should be withdrawn. In several parts of the description a single reference numeral, such as 52, refers to a transmitter and a receiver circuit, which is shown schematically as a transceiver. A transceiver is the combination of a transmitter and a receiver. Therefore it is correct to use this single reference numeral to refer to either of the sub-parts of the transceiver. This response applies to the objections set forth in paragraph 6. It is believed that the drawings are clear as presented and the objections should be withdrawn. If the Examiner disagrees with this position he is respectfully invited to telephone the undersigned attorney for the applicants in order to resolve any remaining drawing matters in this application.

In paragraph 10 of the Office Action the Abstract was objected to as being too lengthy. A new Abstract is provided herewith at Appendix B.

In paragraph 11 and 12 the specification was objected to due to several informalities which have now been corrected.

In paragraphs 13/14 claims 21-23 were rejected under 35 USC 112 based on a typo in the preamble of claim 21 which caused it to be dependent upon itself. This claim has now been amended to overcome the 112 rejection.

In the remainder of the Office Action, the majority of claims 1-39 were rejected under 35 USC 103 over the primary reference to Stalley (USPN 5,479,286) in view of the secondary reference to Foltzer (USPN 5,969,836). Several other references were combined with Stalley and Foltzer to further reject the remainder of the claims.

Claim 1, as now amended, is clearly distinguishable from Stalley and Foltzer. Claim 1 recites a system for transporting voice, video and data signals in the local access loop between a central office location and a plurality of subscribers. The claimed system includes the following elements:

- (1) optical video distribution circuitry for combining analog television signals occupying a first bandwidth and digital television signals occupying a second bandwidth that is at a higher frequency than the first bandwidth into combined optical video signals at a first wavelength;
- (2) telephony/data distribution circuitry for combining telephony packet signals and data packet signals into combined optical telephony/data packet signals at a second wavelength;
- (3) optical multiplexing circuitry for combining the combined optical video signals at the first wavelength with the combined optical telephony/data packet signals at the second wavelength to form downstream multiplexed optical signals carrying the analog and digital

television signals at the first wavelength and the telephony and data packet signals at the second wavelength;

(4) a passive optical network for transporting the downstream multiplexed optical signals to the subscribers; and

(5) a plurality of home network units coupled to the passive optical network for receiving the downstream multiplexed optical signals, and for demultiplexing and converting the downstream multiplexed optical signals into a plurality of electrical signals corresponding to the analog television signals, the digital television signals, the telephony packet signals, and the data packet signals; wherein the home network units comprise circuitry for transmitting combined optical telephony/data packet signals over the passive optical network to the central office at the second wavelength, the circuitry for transmitting including an echo cancellation circuit for monitoring echo signals at the second wavelength and for injecting an echo cancellation signal that compensates for the monitored echo signals.

Neither Stalley or Foltzer, either alone or in combination, disclose, teach or suggest all of the elements of claim 1. Regarding Stalley, this reference discloses an optical fibre communications system in which upstream and downstream digital telephony signals are transmitted on two separate frequencies. The downstream telephony signals are combined with video signals and transmitted at one frequency and the upstream telephony signals are transmitted at a second, separate frequency. Thus, Stalley actually teaches away from the present invention in which the upstream and downstream digital telephony signals are transmitted on the same frequency. Moreover, as set forth in claim 1, the upstream and downstream digital telephony packets are combined with upstream and downstream data packets, which are also transmitted at the same frequency as the telephony packets. Stalley does not

disclose or suggest this type of bidirectional telephony/data packet multiplexing on the same frequency, but as noted above, teaches that the upstream and downstream telephony signals should be transmitted on separate frequencies. Furthermore, Stalley does not disclose combining analog and digital video signals onto a second frequency from the combined telephony/data packets and then multiplexing the combined telephony/data packets with the analog and digital television signals to form downstream multiplexed optical signals. In claim 1, the downstream multiplexed optical signals include the two distinct video signals, the upstream and downstream telephony signals, and the data signals. Stalley simply does not disclose this level of signal integration or combination. And finally, Stalley does not disclose the home network unit as now set forth in claim 1 comprising an echo cancellation circuit for monitoring echo signals at the second wavelength and for injecting an echo cancellation signal that compensates for the monitored echo signals.

Foltzer also teaches away from the invention described in claim 1. Foltzer teaches that downstream and upstream digital telephony signals should be transmitted on separate frequencies, just like Stalley. (See, Figure 4, for example) Although Foltzer mentions the possibility of transmitting both the upstream and downstream telephony signals on a single frequency, Foltzer also discusses the crosstalk and reflection problems that can occur in such a system, but provides no solution. Nowhere does Foltzer disclose or suggest an home networking unit having an echo cancellation circuit for monitoring echo signals at the second wavelength and for injecting an echo cancellation signal that compensates for the monitored echo signals, as now set forth in claim 1. Moreover, Foltzer does not disclose transmitting upstream/downstream data packets at the same frequency as the upstream/downstream telephony packets, nor does Foltzer disclose combining analog and digital television signals at a second frequency and then

combining the second frequency with the first frequency in order to provide downstream multiplexed optical signals as recited in claim 1.

For all of the reasons noted herein, claim 1 is patentably distinct from Stalley, Foltzer and the combination thereof. Claims 2-17 and 20-31 depend from claim 1 and thus are distinct from these two references for at least these same reasons.

It is believed that all of the objections and rejections have been overcome by this Amendment and a notice of allowability is hereby requested. To the extent that there are any remaining issues in this application, the attorney for the applicants specifically requests a telephonic interview with the Examiner to resolve these issues.

Respectfully submitted,

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